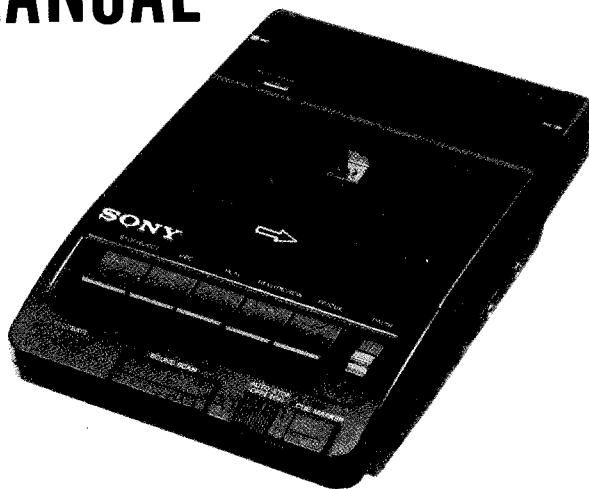


# TCS-2000

## SERVICE MANUAL



*US Model*

*Canadian Model*

*AEP Model*

*UK Model*

*E Model*

### SPECIFICATIONS

Recording system	4-track 2-channel stereo		
Speaker	Approx. 6.6 cm (2 5/8 inches) x 3.8 cm (1 1/2 inches)		
Frequency response	100-10,000 Hz		
Input	Microphone input jack (PLUG IN POWER) (stereo minijack) sensitivity 0.3mV (-68 dB) for 3 kilohms or lower impedance microphone		
Output	Headphones output jack (stereo minijack) load impedance 8 to 300 ohms		
Power output	Headphones: 6mW + 6mW (16 ohms, at 10% harmonic distortion) Speaker: 230mW (at 10% harmonic distortion)		
Power requirements	6V DC, four size AA (R6) batteries DC IN 6V jack accepts: optional Sony AC-D4M AC power adaptor for use on 120V AC, 60Hz optional Sony DCC-127A car battery cord for use on 12V car battery		
Battery life	(hours)		
Batteries	Recording	Playback (speaker)	Playback (headphones)
Sony alkaline battery AM3(N)	Approx. 5	Approx. 5	Approx. 5.5
Dimensions	For maximum performance, we recommend the use of alkaline batteries.		
Weight	Approx. 131 x 42.2 x 202.8 mm (w/h/d) (5 1/4 x 1 15/16 x 8 inches) incl. projecting parts and controls		
Supplied accessory	Approx. 700g (1 lb 9 oz) incl. batteries, not incl. other accessories		
Optional accessories	Carrying case (1) AC power adaptor AC-D4M Car battery cord DCC-127A Electret condenser stereo microphone ECM-202 Stereo headphones MDR-A10L Head demagnetizer HE-5C Head cleaner KK-31 Foot switch FS-10A		

Your dealer may not handle some of the above listed optional accessories. Please ask the dealer for detailed information about the optional accessories available in your country.

Design and specifications subject to change without notice.



Model	Name	Using	Similar	Mechanism	New
Tape	Transport	Mechanism	Type	MT-2000-61	

**Note:** Use only the recommended AC power adaptor or car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



polarity of the Sony plug

### FEATURES

- **Sound scan function** plays back recorded material at approximately 1/4th the time spent for recording, by skipping parts of the contents at certain intervals. This function allows you to quickly check what is recorded on the tape.
- **Cue marker** marks an inaudible cue marker signal at a desired position of the tape during recording. **Auto stop function** quickly locates the cue marker position while playing back.
- **Stereo recording.** Stereo playback is possible with optional stereo headphones.
- **NOISE REDUCTION switch** decreases tape hiss.

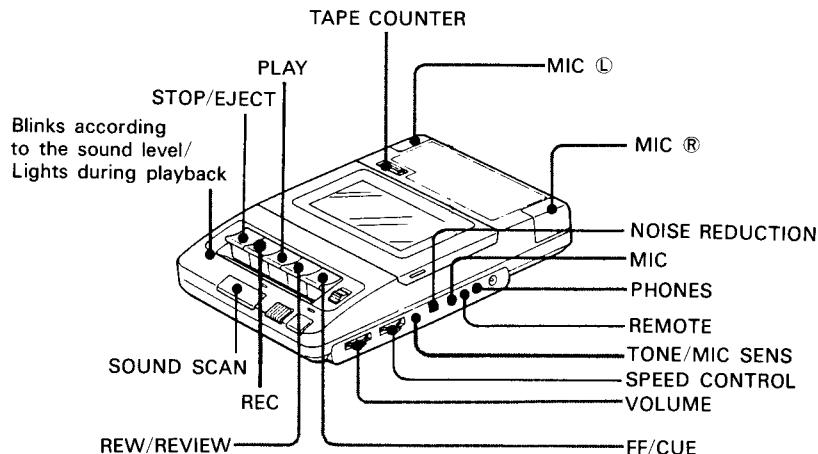
**STEREO CASSETTE CORDER**  
**SONY**®

## TABLE OF CONTENTS

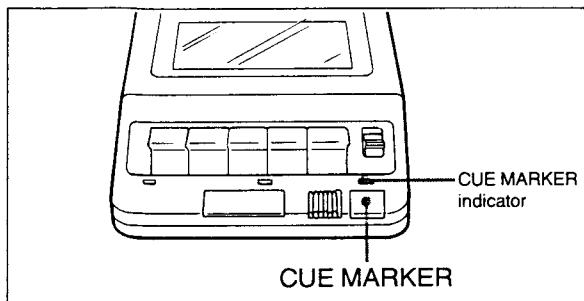
<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
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SECTION 1  
GENERAL

## 1-1. PARTS IDENTIFICATION



## 1-2. RECORDING A CUE MARKER

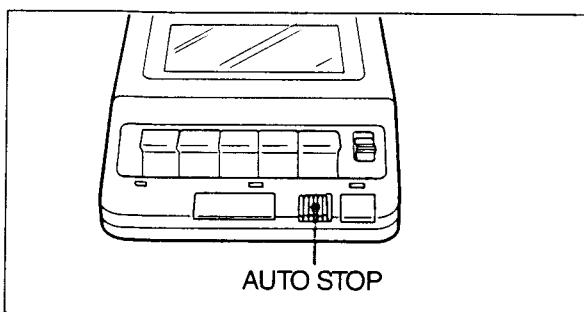


During recording, press CUE MARKER at the position you want to listen to later. The CUE MARKER indicator lights up, and a cue marker is recorded.

### Notes on the cue marker

- You can record as many cue markers as you want.
- If you press STOP immediately after pressing CUE MARKER, the cue marker is not recorded.
- After pressing CUE MARKER, wait until the indicator goes out before continuing to record.

## 1-3. LOCATING CUE MARKERS

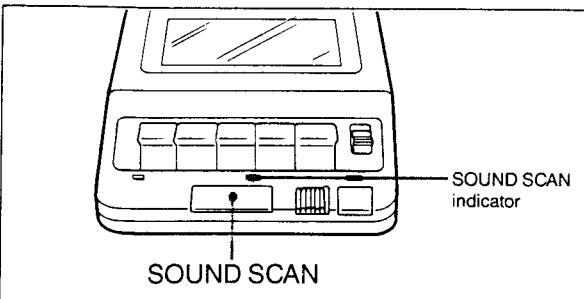


- 1 Play back the tape with the cue markers.
- 2 Set AUTO STOP to ON.
- 3 Keep pressing FF/CUE or REW/REVIEW. At the cue marker position, a beep tone is heard and the tape stops automatically. (The beep tone may not be heard if the volume is very low.)
- 4 Release FF/CUE or REW/REVIEW to start playback.

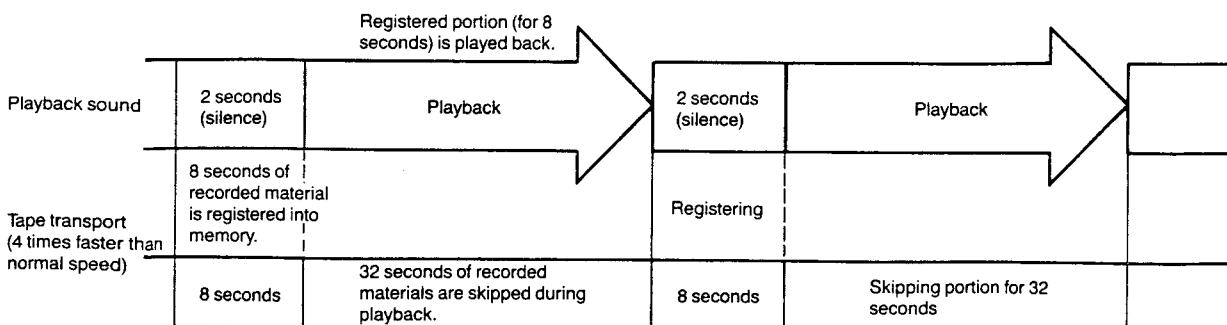
### Notes

- The beep tone (cue marker signal) is not heard during normal playback.
- With a tape on which very low frequency sounds are recorded, the tape may stop at an unexpected position.

## 1-4. SCANNING SOUND



Press SOUND SCAN during playback. The SOUND SCAN indicator lights, and the tape is transported 4 times faster than the normal speed.



### When SOUND SCAN is pressed

In about 2 seconds, 8 seconds of recorded material will be registered in the built-in memory. (Nothing is heard during this period.) Then the registered sound will be played back for 8 seconds. During these 8 seconds, 32 seconds of recording will be skipped. These steps will be repeated, allowing you to check roughly the contents of the tape in about 1/4th of the time spent for recording.

To stop scanning, press SOUND SCAN, FF/CUE, or REW REVIEW. The unit returns to a normal playback.

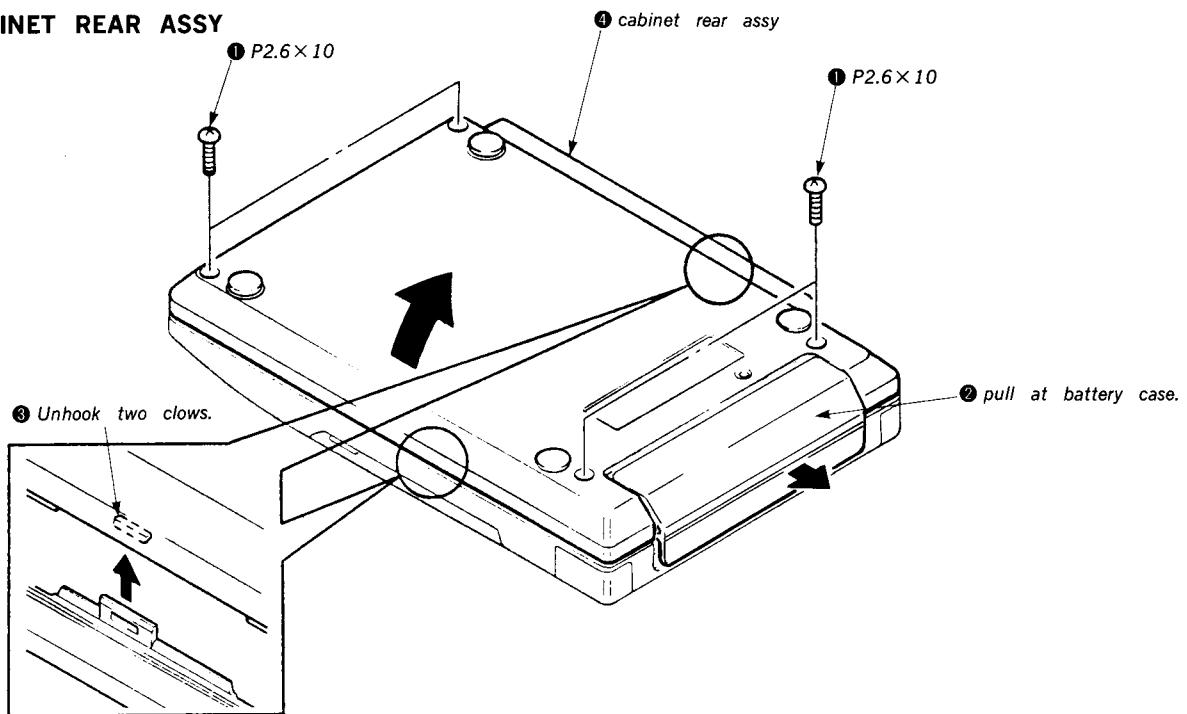
**Note:** The sound is monaural during sound scanning, and the sound quality may differ from the normal playback sound.

## SECTION 2

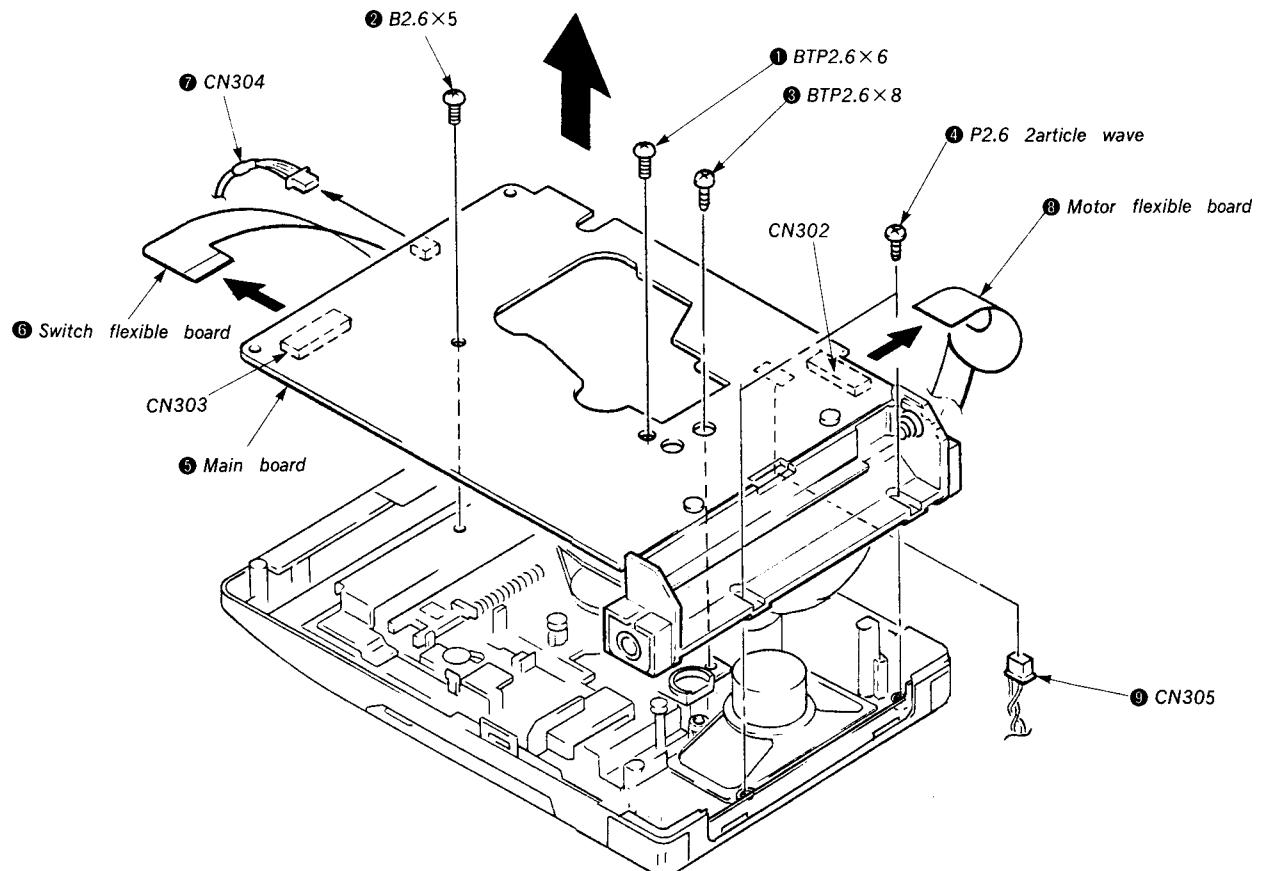
### DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

#### 2-1. CABINET REAR ASSY



#### 2-2. MAIN BOARD



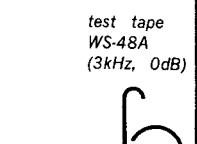
## SECTION 3 MECHANICAL ADJUSTMENTS

### PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:  
record/playback head      pinch rollers  
erase head      rubber belts  
capstan      idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
  - Power supply voltage : 5Vdc
  - VOLUME : MAX
  - SPEED CONTROL : Center
  - NOISE REDUCTON : OFF
  - TONE/MIC SENS : HIGH
  - AUTO STOP : ON
  - PAUSE : OFF

mode	Meter reading	Torque meter
Forward	25 to 45g·cm (0.35 to 0.63oz·inch)	CQ-102C
Fast Forward and Rewind	more than 60g·cm (more than 0.83oz·inch)	CQ-201B
Back Tension	1 to 3g·cm (0.014 to 0.042oz·inch)	CQ-102C

Tape Speed A  
Procedure :  
Mode: playback



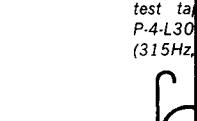
Adjustment Value

Speed checker
±1%

Adjust RV602 to  
difference between

PB NR Level

Procedure :



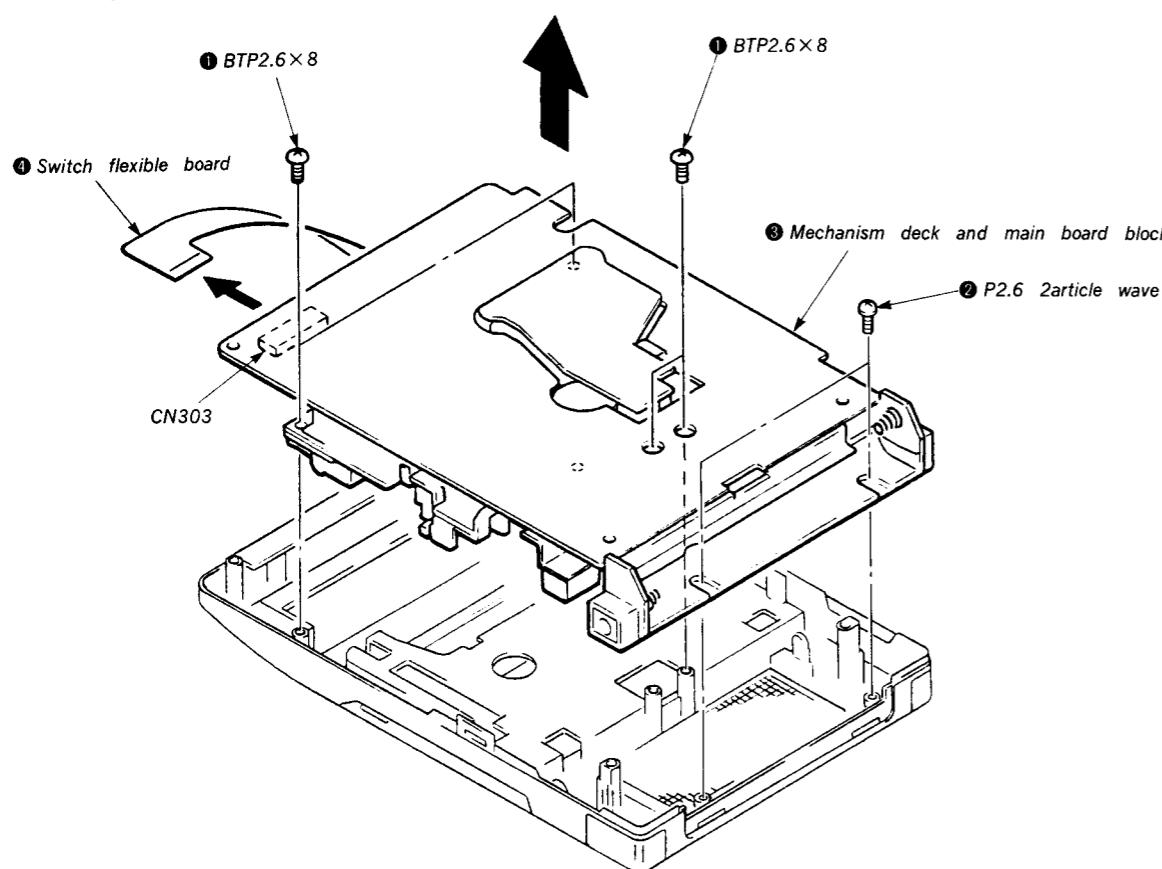
Adjust RV101 (L  
adjustment level)

Adjustment Value  
PB NR level : 0

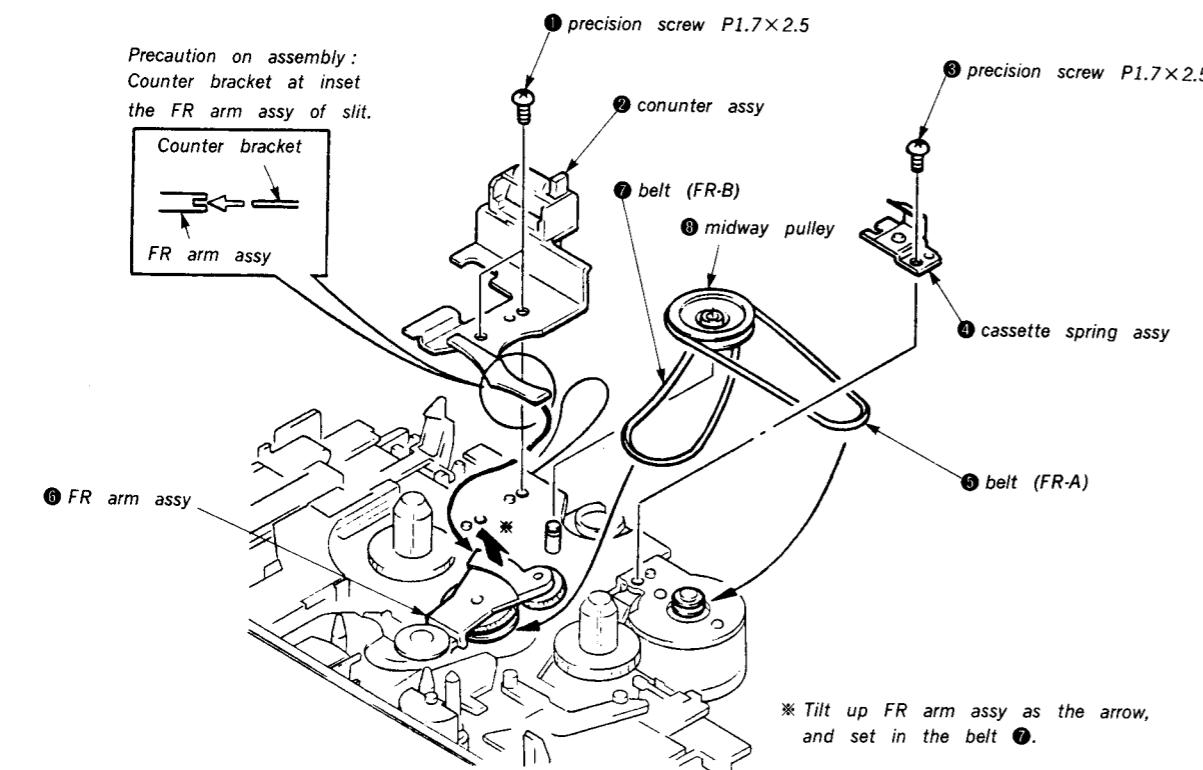
Level difference

Confirm that the  
mode while chan-  
times.

### 2-3. MECHANISM DECK AND MAIN BOARD BLOCK



### 2-4. FR BELT (BOTTOM) REPLACEMENT



## SECTION 4 ELECTRICAL ADJUSTMENTS

### 4-1. TAPE RECODER SECTION

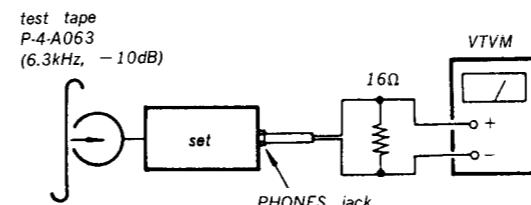
#### • Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment
P-4-A063	6.3kHz, -10dB	head azimuth adjustment

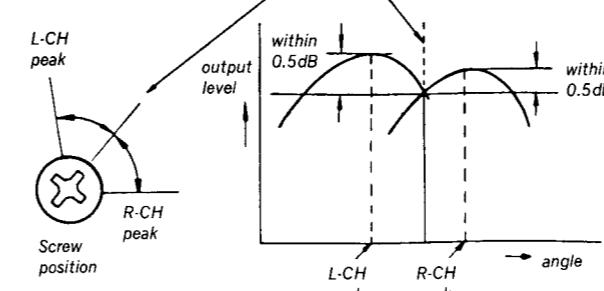
#### Playback Head Azimuth Adjustment

##### Procedure :

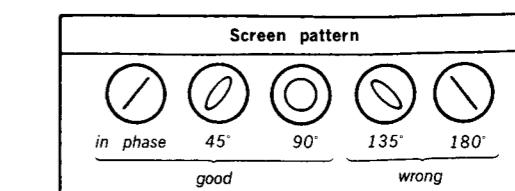
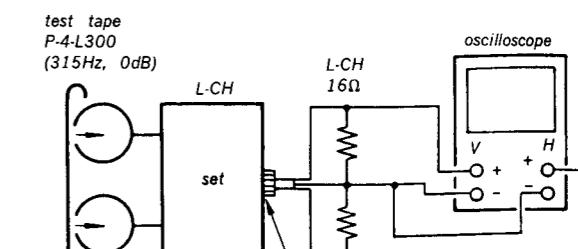
1. Mode: playback



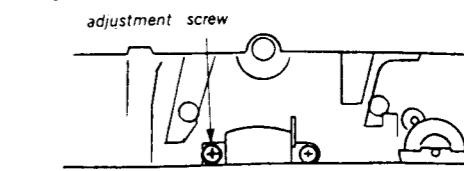
2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5dB.



3. Phase Check  
Mode: playback



##### Adjustment Location :



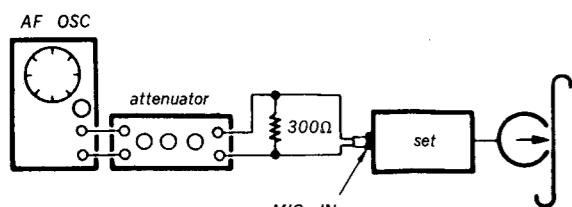


## SECTION 5 DIAGRAMS

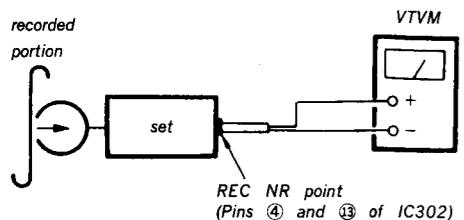
### REC NR Level adjustment

#### Procedure:

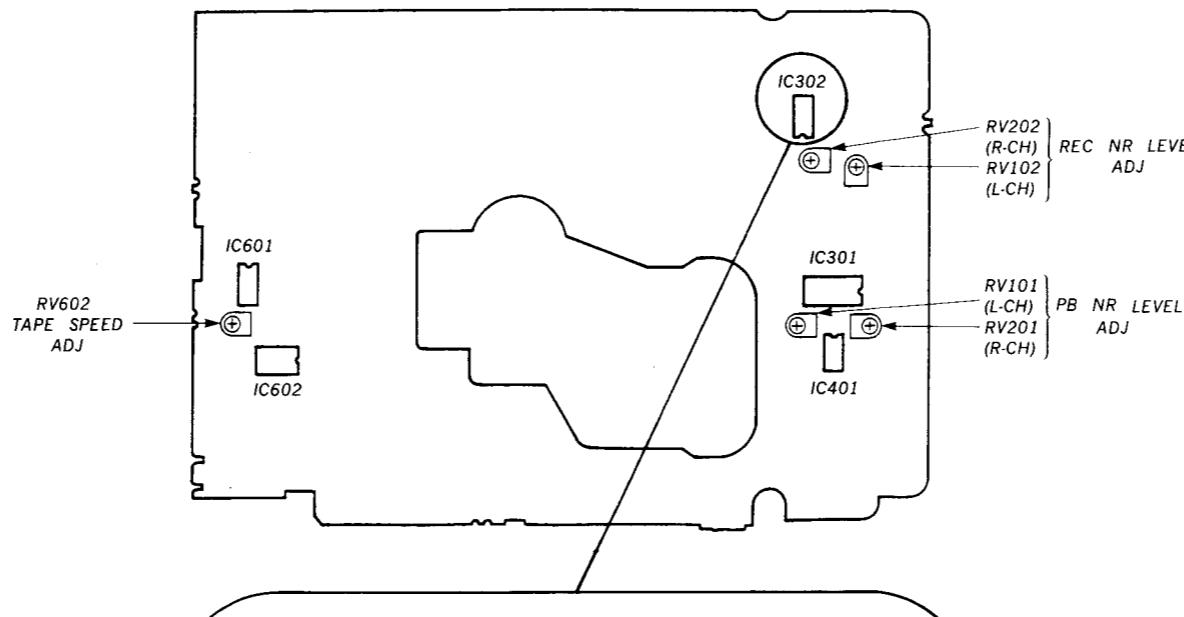
1. Mode : record



2. Mode : playback



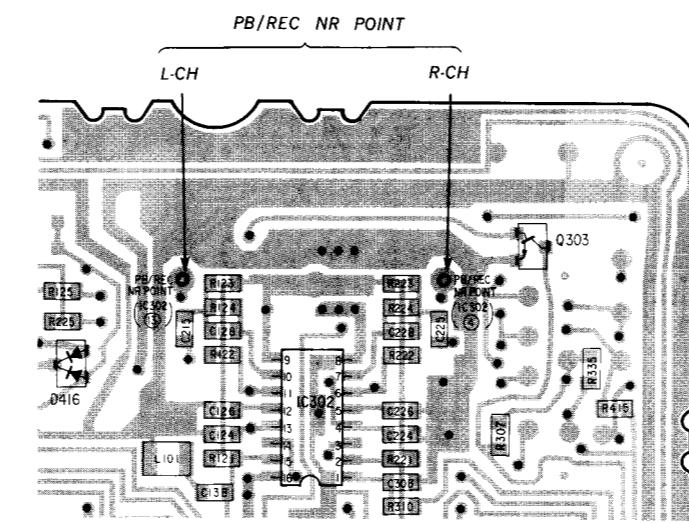
Adjustment Location : main board (A side)



Play back the recorded in step 1. If the adjustment value is not satisfied adjust RV102 (L-CH) and RV202 (R-CH) to repeat step 1 and 2.

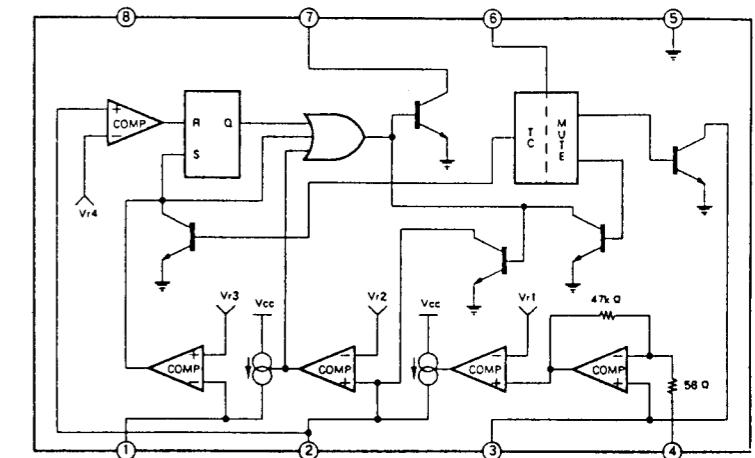
#### Adjustment Value:

REC NR level: 0.0691 to 0.0775V  
(-21 to -20dBs)

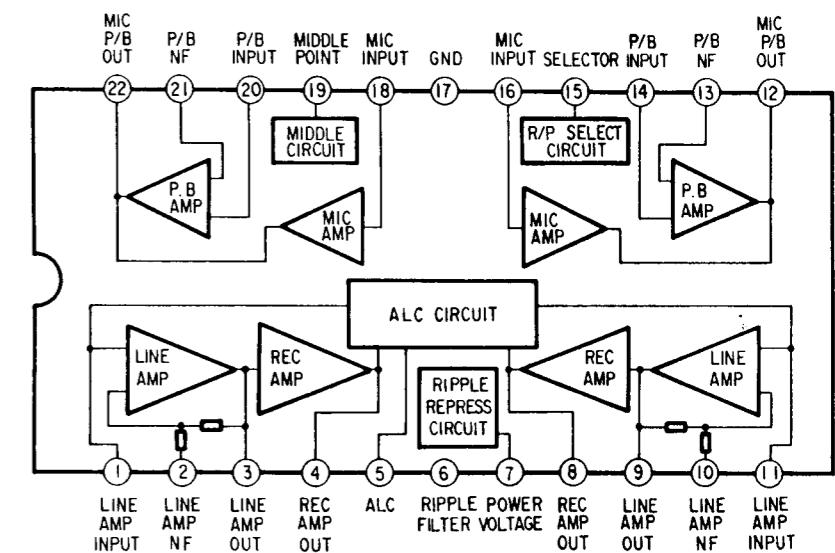


#### • IC Block Diagrams

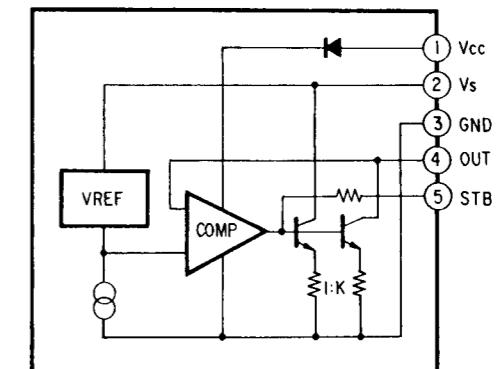
##### IC403 BA3708F



##### IC301 AN7015S



##### IC603 LA5537

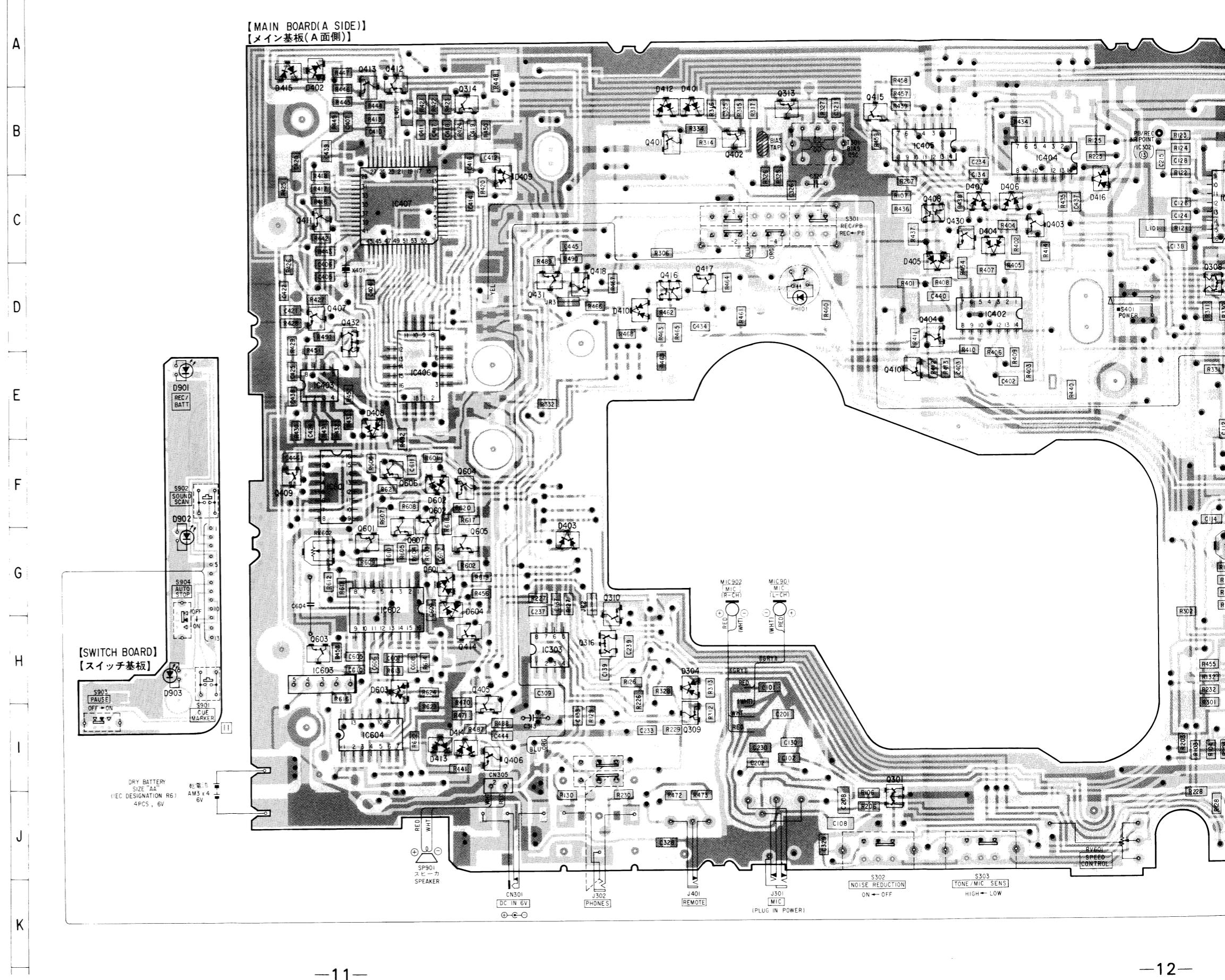


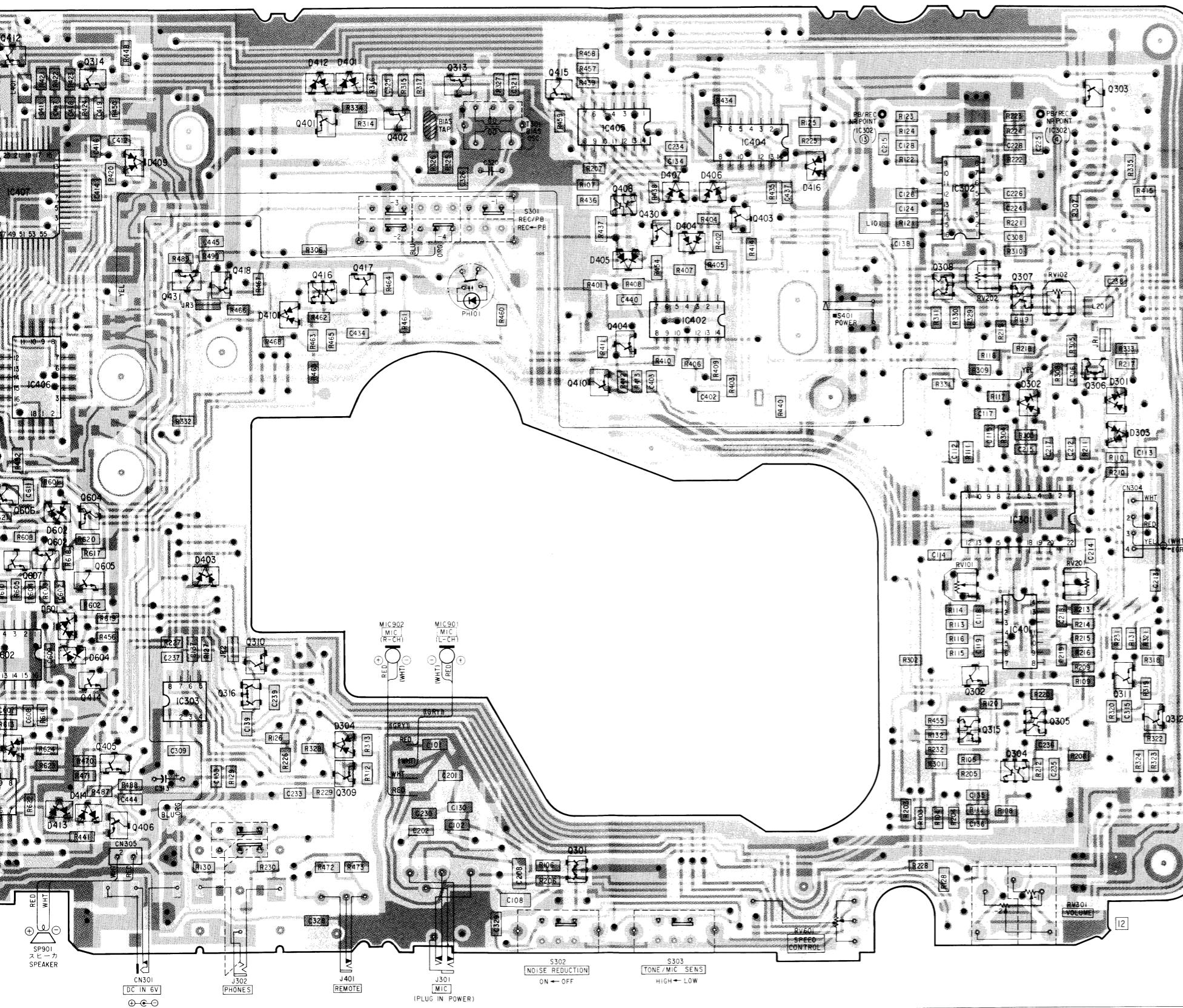
## 5-1. PRINTED WIRING BOARDS • Refer to page 18 for Semiconductor Lead Layouts.

## • Semiconductor Location

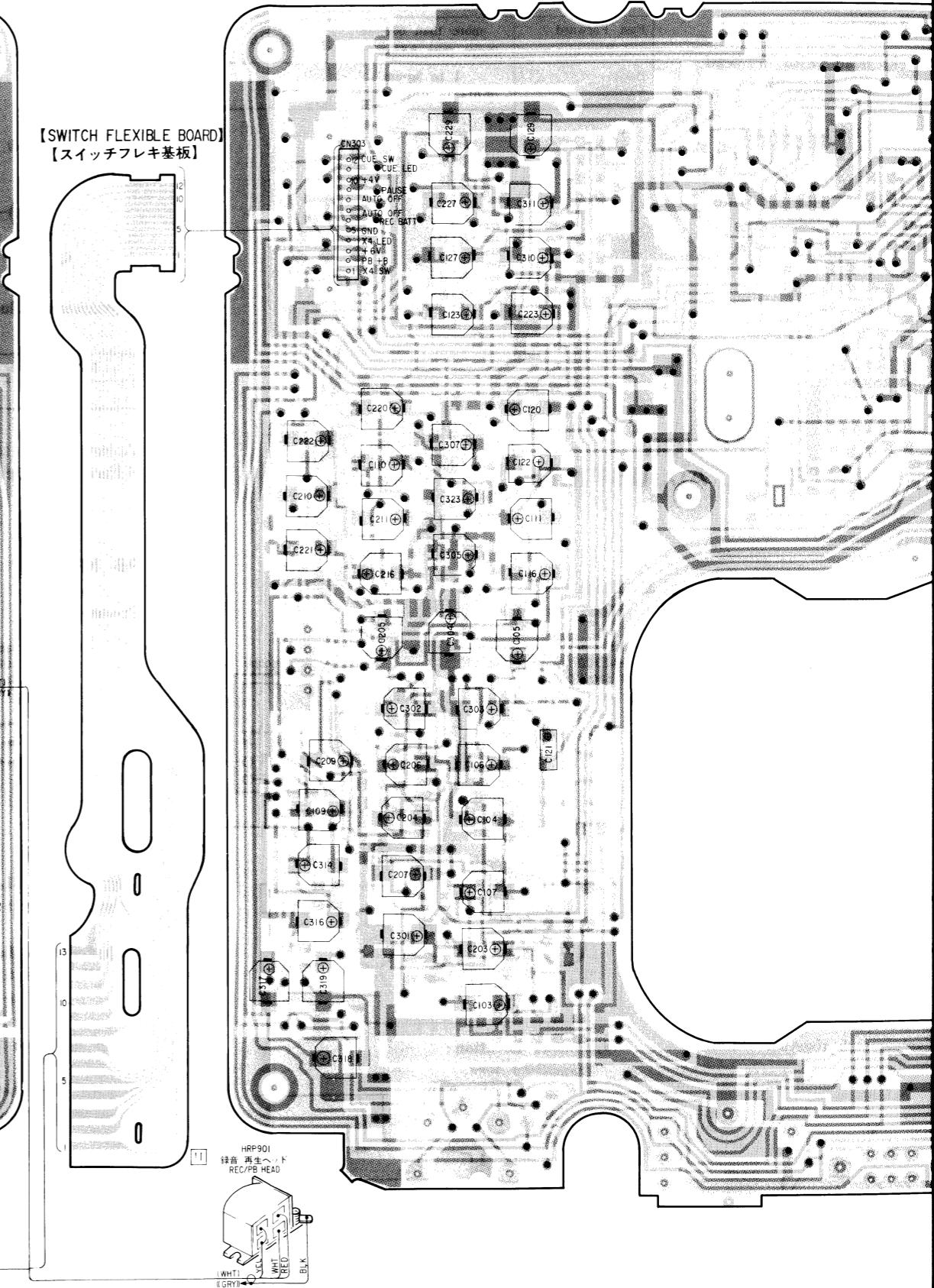
Ref. No.	Location	Ref. No.	Location
D301	E-16	Q313	B-9
D302	E-15	Q314	B-6
D303	E-16	Q315	H-14
D304	H-8	Q316	H-7
D401	B-8	Q401	B-8
D402	A-4	Q402	B-9
D403	G-7	Q403	C-12
D404	C-11	Q404	D-11
D405	C-11	Q405	H-6
D406	C-12	Q406	I-6
D407	C-11	Q407	D-4
D408	E-4	Q408	C-11
D409	C-6	Q409	F-4
D410	D-7	Q410	E-11
D412	B-8	Q411	C-4
D413	I-5	Q412	A-5
D414	I-5	Q413	B-4
D415	A-3	Q414	H-6
D416	C-13	Q415	B-10
D601	G-5	Q416	D-8
D602	F-5	Q417	D-8
D603	H-5	Q418	D-7
D604	G-5	Q419	C-29
D901	E-2	Q420	C-29
D902	G-2	Q421	C-28
D903	H-2	Q422	D-28
		Q423	E-29
IC301	F-15	Q424	D-30
IC302	C-14	Q425	F-29
IC303	H-6	Q426	E-29
IC401	G-15	Q427	E-29
IC402	D-11	Q428	E-28
IC403	E-4	Q429	D-29
IC404	B-12	Q430	C-11
IC405	B-11	Q431	D-6
IC406	E-5	Q432	D-4
IC407	C-5	Q601	G-4
IC408	B-29	Q602	F-5
IC601	F-4	Q603	H-4
IC602	G-5	Q604	F-5
IC603	H-4	Q605	G-5
IC604	I-4	Q606	F-5
		Q607	F-5
Q301	J-10		
Q302	H-14		
Q303	B-16		
Q304	I-15		
Q305	H-15		
Q306	E-15		
Q307	D-15		
Q308	D-14		
Q309	I-8		
Q310	G-7		
Q311	H-16		
Q312	H-16		

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : Through hole.
- : Pattern on the side which is seen.
- : Pattern of the rear side.





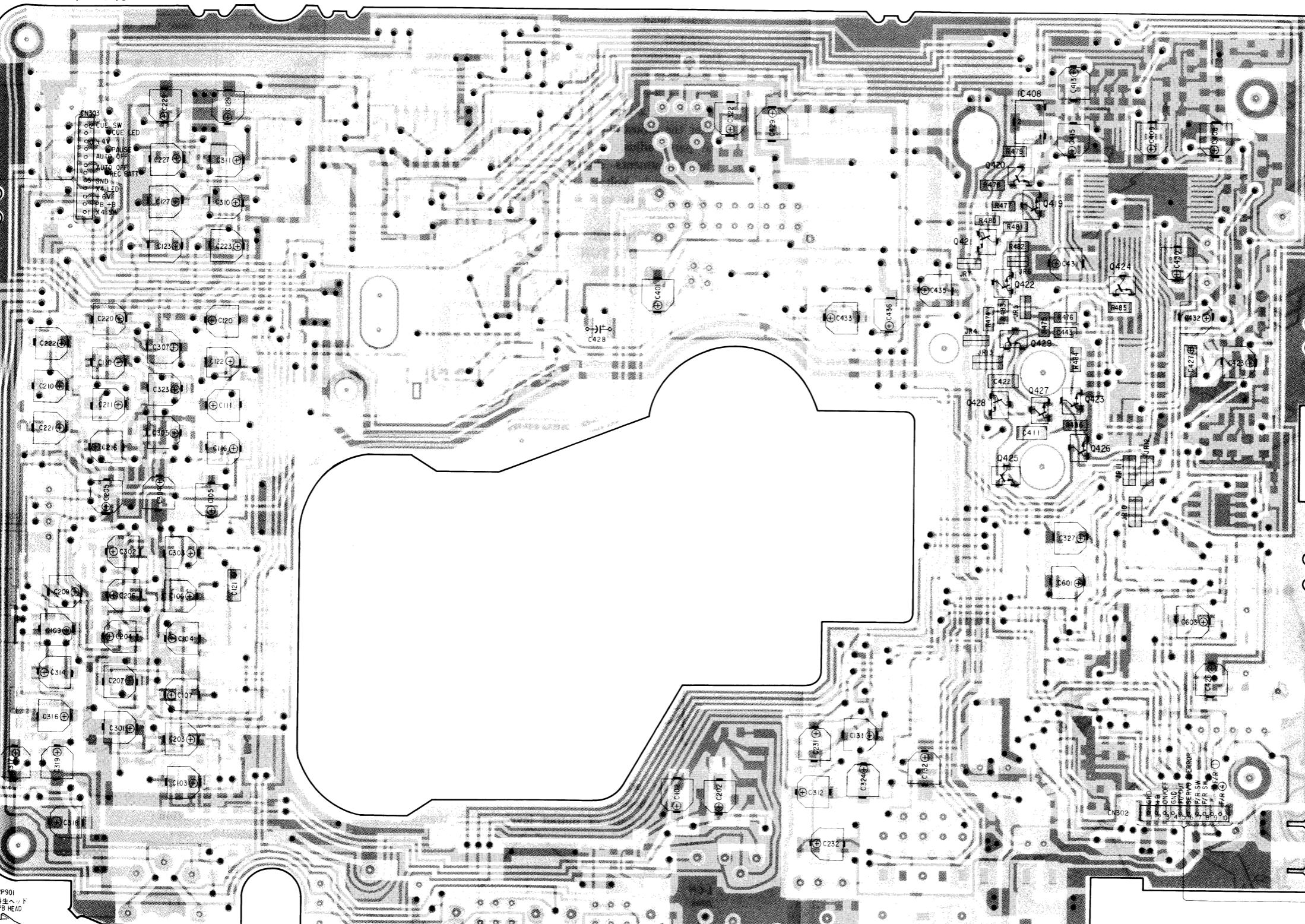
【MAIN BOARD (B SIDE)  
【メイン基板( B面側)】

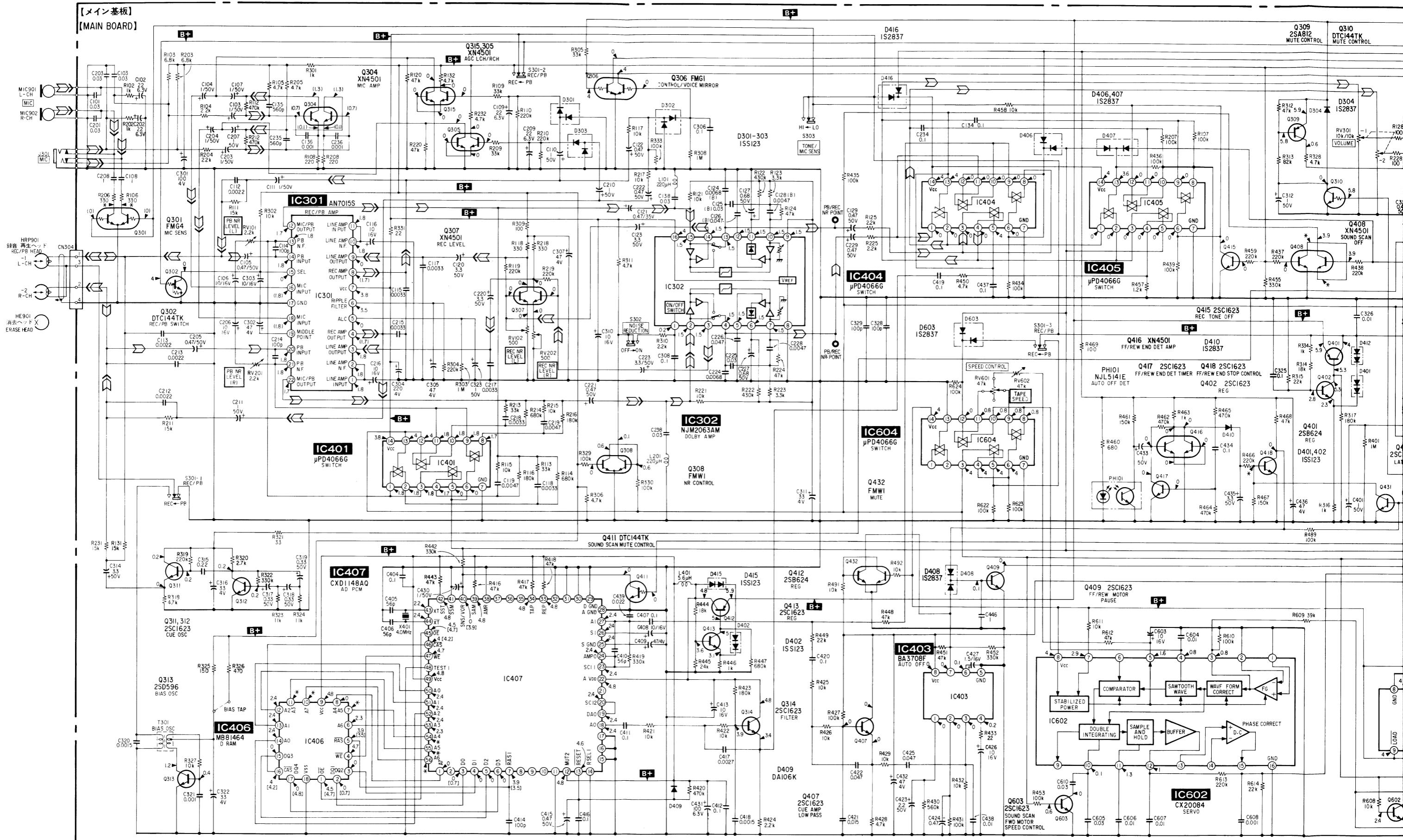


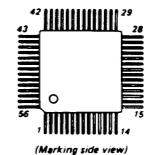
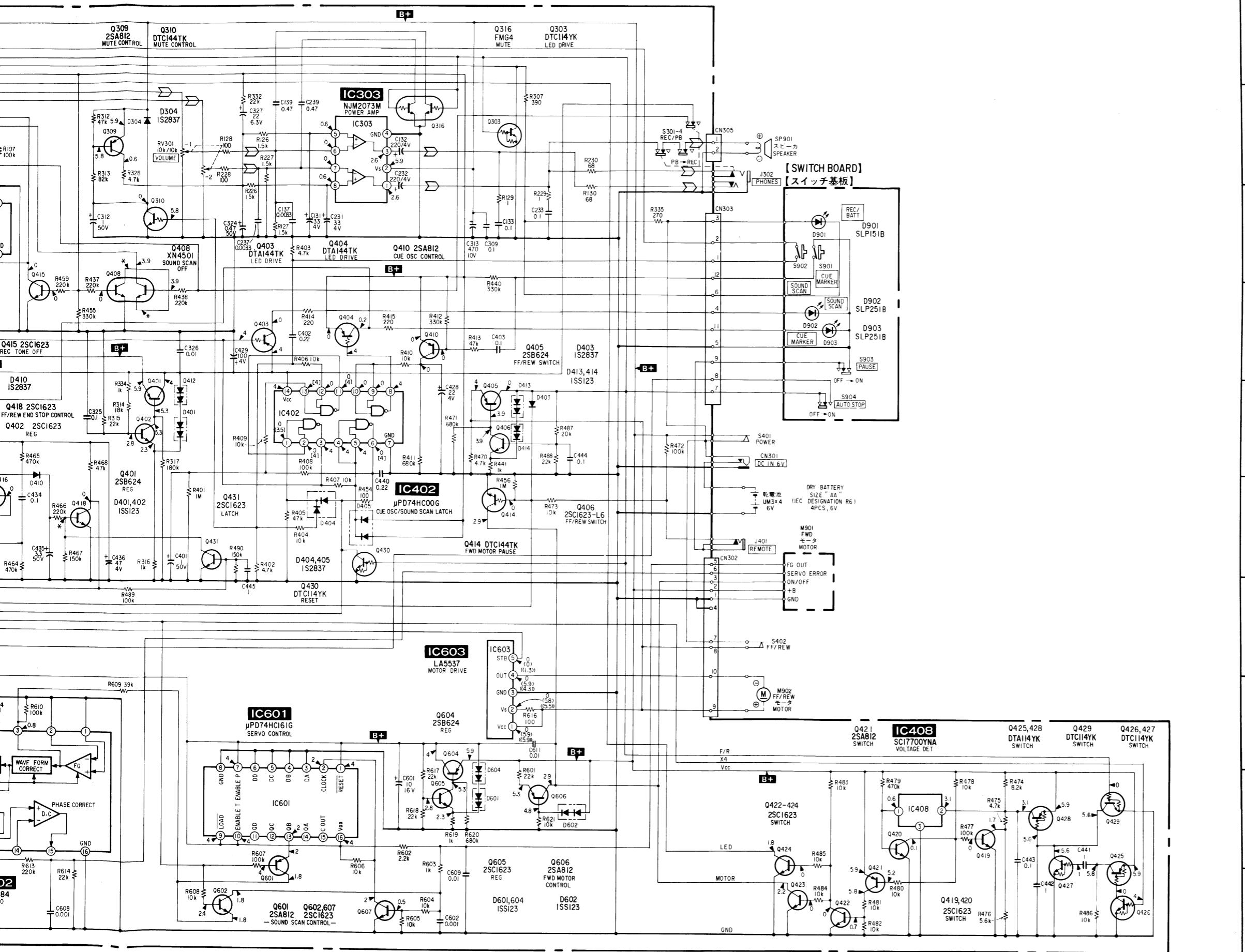
【SWITCH FLEXIBLE  
【スイッチフレキ基

17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

【MAIN BOARD (B SIDE)  
【メイン基板( B面側)】



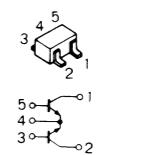




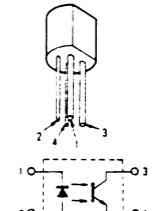
MB81464-12PD



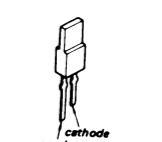
FMG4  
FMW1



NJ 5141E-AA



**SLP151B-60**  
**SLP251B**



**Note:**

## SECTION 6 EXPLODED VIEWS

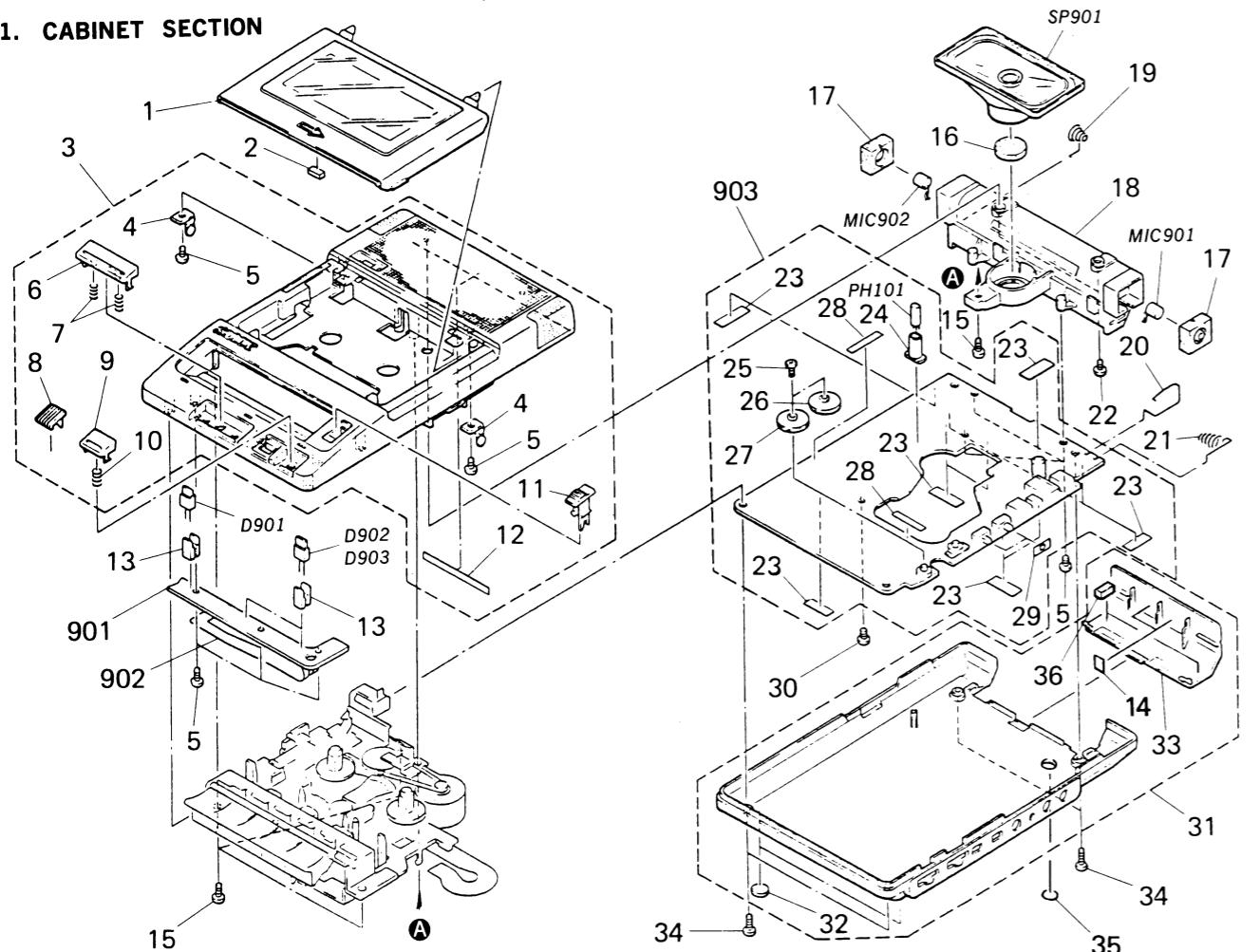
TCS-2000 TCS-2000

### NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

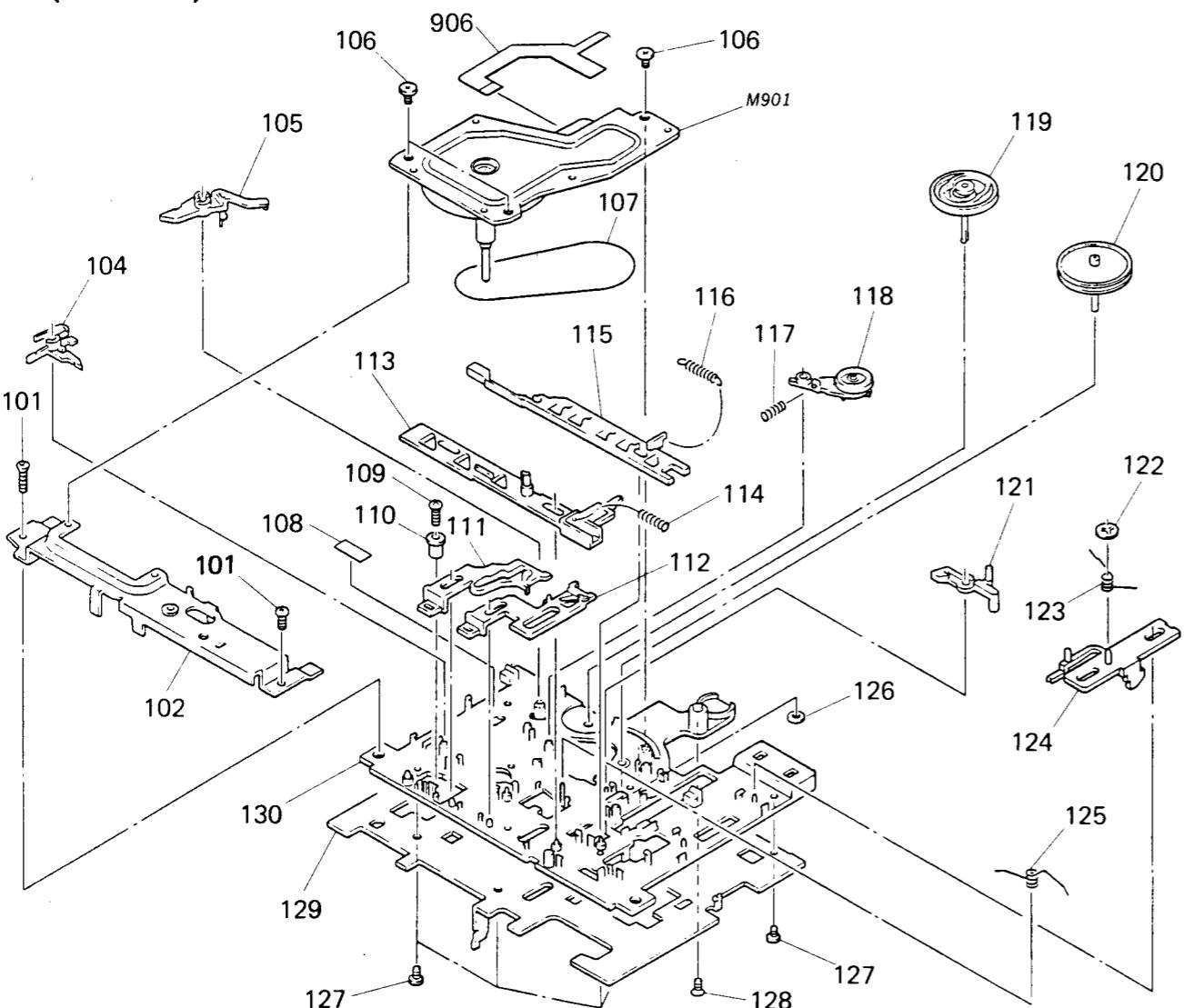
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

### 6-1. CABINET SECTION



## SECTION 7 ELECTRICAL PARTS LIST

### 6-3. MECHANISM SECTION (2) (MT-2000-61)



### Remarks

Ref.No	Part No.	Description	Remarks	Ref.No	Part No.	Description	Remarks
101	7-627-452-58	SCREW +K 2X6 TYPE1		118	X-3343-337-1	ARM ASSY, IDLER	
102	*3-351-254-01	BRACKET (MOTOR)		119	X-3343-307-1	PLATE ASSY, T REEL	
104	3-351-253-01	LEVER (B), SHUT-OFF		120	X-3351-209-1	PULLEY ASSY, MIDWAY	
105	3-345-814-01	LEVER (S), SHAFT OFF		121	3-342-010-01	ARM, CR	
106	3-303-809-51	SCREW (M1.7X5.0), SPECIAL HEAD		122	3-342-841-01	NUT, F PUSH	
107	3-351-230-01	BELT		123	3-351-274-01	SPRING, TORSION	
108	3-831-441-11	CUSHION (B)		124	3-351-238-01	SLIDER, EJECT	
109	7-627-552-77	SCREW, PRECISION +P 1.7X6		125	3-342-035-01	SPRING (FR)	
110	3-349-752-01	SPACER (FF)		126	3-570-615-00	POLY-WASHER (DIA.1.2)	
111	3-343-340-01	LEVER, FF		127	3-343-254-51	SCREW (B1.7X2.8), TAPPING	
112	3-343-339-01	LEVER, REW		128	3-351-279-01	SCREW (M1.7), TAPPING	
113	3-351-250-04	SLIDER, POWER		129	*X-3351-211-1	PLATE ASSY, B	
114	3-343-346-01	SPRING, COMPRESSION		130	3-351-268-01	BRACKET, LEVER	
115	3-351-259-01	SLIDER, LOCK		906	1-630-106-11	PC BOARD, MOTOR FLEXIBLE	
116	3-351-283-01	SPRING, TENSION		M901	1-541-656-11	MOTOR (FWD)	
117	3-832-804-01	SPRING, TENSION					

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

## CAPACITORS:

CHARACTERS:

## **RESISTORS**

- All resistors are in ohms.
- F: nonflammable

## COILS

- MMH: mH, UH:  $\mu$ H

## SEMICONDUCTORS

In each case,  $U \propto \mu$ , for example  
 $UA \dots : \mu A \dots$ ,  $UPA \dots : \mu PA \dots$   
 $UPC \dots : \mu PC$ ,  $UPD \dots : \mu PD \dots$

Ref.No	Part No.	Description			Ref.No	Part No.	Description		
901	* 1-629-354-11	PC BOARD, SWITCH			C208	1-162-638-11	CERAMIC CHIP	1MF	16V
902	1-629-355-11	PC BOARD, SWITCH FLEXIBLE			C209	1-124-778-00	ELECT CHIP	22MF	20% 6.3V
903	* A-3015-719-A	PC BOARD ASSY, MAIN			C210	1-126-193-11	ELECT CHIP	1MF	20% 50V
904	1-550-463-11	COUNTER, TAPE (ULTRA SMALL)			C211	1-126-193-11	ELECT CHIP	1MF	20% 50V
905	A-3133-368-A	MOTOR BLOCK ASSY (INCLUDING M902)			C212	1-164-161-11	CERAMIC CHIP	0.0022MF	10% 50V
906	1-630-106-11	PC BOARD, MOTOR FLEXIBLE			C213	1-164-161-11	CERAMIC CHIP	0.0022MF	10% 50V
	<u>CAPACITOR</u>				C214	1-163-117-00	CERAMIC CHIP	100PF	5% 50V
C101	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V	C215	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V
C102	1-124-778-00	ELECT CHIP	22MF	20% 6.3V	C216	1-124-779-00	ELECT CHIP	10MF	20% 16V
C103	1-126-193-11	ELECT CHIP	1MF	20% 50V	C217	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V
C104	1-126-193-11	ELECT CHIP	1MF	20% 50V	C218	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V
C105	1-126-191-11	ELECT CHIP	0.47MF	20% 50V	C219	1-163-017-00	CERAMIC CHIP	0.0047MF	10% 50V
C106	1-124-779-00	ELECT CHIP	10MF	20% 16V	C220	1-126-196-11	ELECT CHIP	3.3MF	20% 50V
C107	1-126-193-11	ELECT CHIP	1MF	20% 50V	C221	1-126-191-11	ELECT CHIP	0.47MF	20% 50V
C108	1-162-638-11	CERAMIC CHIP	1MF	16V	C222	1-126-191-11	ELECT CHIP	0.47MF	20% 50V
C109	1-124-778-00	ELECT CHIP	22MF	20% 6.3V	C223	1-126-196-11	ELECT CHIP	3.3MF	20% 50V
C110	1-126-193-11	ELECT CHIP	1MF	20% 50V	C224	1-163-019-00	CERAMIC CHIP	0.0068MF	10% 50V
C111	1-126-193-11	ELECT CHIP	1MF	20% 50V	C225	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V
C112	1-164-161-11	CERAMIC CHIP	0.0022MF	10% 50V	C226	1-163-809-11	CERAMIC CHIP	0.047MF	10% 25V
C113	1-164-161-11	CERAMIC CHIP	0.0022MF	10% 50V	C227	1-126-192-11	ELECT CHIP	0.68MF	20% 50V
C114	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	C228	1-163-017-00	CERAMIC CHIP	0.0047MF	10% 50V
C115	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V	C229	1-126-191-11	ELECT CHIP	0.47MF	20% 50V
C116	1-124-779-00	ELECT CHIP	10MF	20% 16V	C230	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V
C117	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V	C231	1-126-207-11	ELECT CHIP	33MF	20% 4V
C118	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V	C232	1-126-246-11	ELECT CHIP	220MF	20% 4V
C119	1-163-017-00	CERAMIC CHIP	0.0047MF	10% 50V	C233	1-163-038-00	CERAMIC CHIP	0.1MF	25V
C120	1-126-196-11	ELECT CHIP	3.3MF	20% 50V	C234	1-163-038-00	CERAMIC CHIP	0.1MF	25V
C121	1-135-145-11	TANTAL. CHIP	0.47MF	10% 35V	C235	1-163-135-00	CERAMIC CHIP	560PF	5% 50V
C122	1-126-191-11	ELECT CHIP	0.47MF	20% 50V	C236	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V
C123	1-126-196-11	ELECT CHIP	3.3MF	20% 50V	C237	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V
C124	1-163-019-00	CERAMIC CHIP	0.0068MF	10% 50V	C238	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V
C125	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V	C239	1-164-005-11	CERAMIC CHIP	0.47MF	25V
C126	1-163-809-11	CERAMIC CHIP	0.047MF	10% 25V	C301	1-126-209-11	ELECT CHIP	100MF	20% 4V
C127	1-126-192-11	ELECT CHIP	0.68MF	20% 50V	C302	1-126-208-11	ELECT CHIP	47MF	20% 4V
C128	1-163-017-00	CERAMIC CHIP	0.0047MF	10% 50V	C303	1-124-779-00	ELECT CHIP	10MF	20% 16V
C129	1-126-191-11	ELECT CHIP	0.47MF	20% 50V	C304	1-126-246-11	ELECT CHIP	220MF	20% 4V
C130	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V	C305	1-126-208-11	ELECT CHIP	47MF	20% 4V
C131	1-126-207-11	ELECT CHIP	33MF	20% 4V	C306	1-163-038-00	CERAMIC CHIP	0.1MF	25V
C132	1-126-246-11	ELECT CHIP	220MF	20% 4V	C307	1-126-208-11	ELECT CHIP	47MF	20% 4V
C133	1-163-038-00	CERAMIC CHIP	0.1MF	25V	C308	1-163-038-00	CERAMIC CHIP	0.1MF	25V
C134	1-163-038-00	CERAMIC CHIP	0.1MF	25V	C309	1-163-038-00	CERAMIC CHIP	0.1MF	25V
C135	1-163-135-00	CERAMIC CHIP	560PF	5% 50V	C310	1-124-779-00	ELECT CHIP	10MF	20% 16V
C136	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V	C311	1-126-207-11	ELECT CHIP	33MF	20% 4V
C137	1-163-015-00	CERAMIC CHIP	0.0033MF	10% 50V	C312	1-126-193-11	ELECT CHIP	1MF	20% 50V
C138	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V	C313	1-124-472-11	ELECT	470MF	20% 10V
C139	1-164-005-11	CERAMIC CHIP	0.47MF	25V	C314	1-126-196-11	ELECT CHIP	3.3MF	20% 50V
C201	1-163-810-00	CERAMIC CHIP	0.03MF	10% 25V	C315	1-164-222-11	CERAMIC CHIP	0.22MF	25V
C202	1-124-778-00	ELECT CHIP	22MF	20% 6.3V	C316	1-126-207-11	ELECT CHIP	33MF	20% 4V
C203	1-126-193-11	ELECT CHIP	1MF	20% 50V	C317	1-126-190-	ELECT CHIP	0.33MF	20% 50V
C204	1-126-193-11	ELECT CHIP	1MF	20% 50V	C318	1-126-190-	ELECT CHIP	0.33MF	20% 50V
C205	1-126-191-11	ELECT CHIP	0.47MF	20% 50V	C319	1-126-190-	ELECT CHIP	0.33MF	20% 50V
C206	1-124-779-00	ELECT CHIP	10MF	20% 16V	C320	1-161-041-00	CERAMIC	0.0015MF	10% 50V
C207	1-126-193-11	ELECT CHIP	1MF	20% 50V	C321	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V
					C322	1-126-207-11	ELECT CHIP	33MF	20% 4V
					C323	1-126-193-11	ELECT CHIP	1MF	20% 50V



Ref.No	Part No.	Description
L401	1-410-201-51	INDUCTOR CHIP 5.6UH
M901	1-541-656-11	MOTOR (FWD)
MIC901	1-542-092-11	MICROPHONE, ELECTRET CONDENSER
MIC902	1-542-092-11	MICROPHONE, ELECTRET CONDENSER
PH101	8-719-751-42	DIODE NJL5141E-AA
Q301	8-729-902-93	TRANSISTOR FMG4
Q302	8-729-903-30	TRANSISTOR DTC144TK
Q303	8-729-903-30	TRANSISTOR DTC144TK
Q304	8-729-402-81	TRANSISTOR XN4501
Q305	8-729-402-81	TRANSISTOR XN4501
Q306	8-729-902-93	TRANSISTOR FMG4
Q307	8-729-402-81	TRANSISTOR XN4501
Q308	8-729-903-10	TRANSISTOR FMW1
Q309	8-729-216-22	TRANSISTOR 2SA1162
Q310	8-729-903-30	TRANSISTOR DTC144TK
Q311	8-729-100-66	TRANSISTOR 2SC1623
Q312	8-729-100-66	TRANSISTOR 2SC1623
Q313	8-729-159-64	TRANSISTOR 2SD596
Q314	8-729-100-66	TRANSISTOR 2SC1623
Q315	8-729-402-81	TRANSISTOR XN4501
Q316	8-729-902-93	TRANSISTOR FMG4
Q401	8-729-162-44	TRANSISTOR 2SB624-BV4
Q402	8-729-100-66	TRANSISTOR 2SC1623
Q403	8-729-903-29	TRANSISTOR DTA144TK
Q404	8-729-903-29	TRANSISTOR DTA144TK
Q405	8-729-162-44	TRANSISTOR 2SB624-BV4
Q406	8-729-100-66	TRANSISTOR 2SC1623
Q407	8-729-100-66	TRANSISTOR 2SC1623
Q408	8-729-402-81	TRANSISTOR XN4501
Q409	8-729-100-66	TRANSISTOR 2SC1623
Q410	8-729-216-22	TRANSISTOR 2SA1162
Q411	8-729-903-30	TRANSISTOR DTC144TK
Q412	8-729-162-44	TRANSISTOR 2SB624-BV4
Q413	8-729-100-66	TRANSISTOR 2SC1623
Q414	8-729-903-30	TRANSISTOR DTC144TK
Q415	8-729-100-66	TRANSISTOR 2SC1623
Q416	8-729-402-81	TRANSISTOR XN4501
Q417	8-729-100-66	TRANSISTOR 2SC1623
Q418	8-729-100-66	TRANSISTOR 2SC1623
Q419	8-729-100-66	TRANSISTOR 2SC1623
Q420	8-729-100-66	TRANSISTOR 2SC1623
Q421	8-729-216-22	TRANSISTOR 2SA1162
Q422	8-729-100-66	TRANSISTOR 2SC1623
Q423	8-729-100-66	TRANSISTOR 2SC1623
Q424	8-729-100-66	TRANSISTOR 2SC1623
Q425	8-729-901-46	TRANSISTOR DTA114YK
Q426	8-729-900-52	TRANSISTOR DTC114YK
Q427	8-729-900-52	TRANSISTOR DTC114YK
Q428	8-729-901-46	TRANSISTOR DTA114YK
Q429	8-729-900-52	TRANSISTOR DTC114YK
Q430	8-729-900-52	TRANSISTOR DTC114YK
Q431	8-729-100-66	TRANSISTOR 2SC1623
Q432	8-729-903-10	TRANSISTOR FMW1
Q601	8-729-216-22	TRANSISTOR 2SA1162
Q602	8-729-100-66	TRANSISTOR 2SC1623
Q603	8-729-100-66	TRANSISTOR 2SC1623
Q604	8-729-162-44	TRANSISTOR 2SB624-BV4
Q605	8-729-100-66	TRANSISTOR 2SC1623
Q606	8-729-216-22	TRANSISTOR 2SA1162
Q607	8-729-100-66	TRANSISTOR 2SC1623
<u>RESISTOR</u>		
R102	1-216-049-00	METAL GLAZE 1K 5% 1/10W

Ref.No	Part No.	Description
R103	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R104	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R105	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R106	1-216-037-00	METAL GLAZE 330 5% 1/10W
R107	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R108	1-216-033-00	METAL GLAZE 220 5% 1/10W
R109	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R110	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R111	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R112	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R113	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R114	1-216-117-00	METAL GLAZE 680K 5% 1/10W
R115	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R116	1-216-103-00	METAL GLAZE 180K 5% 1/10W
R117	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R118	1-216-037-00	METAL GLAZE 330 5% 1/10W
R119	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R120	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R121	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R122	1-216-112-00	METAL GLAZE 430K 5% 1/10W
R123	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R124	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R125	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R126	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R127	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R128	1-216-025-00	METAL GLAZE 100 5% 1/10W
R129	1-217-671-11	METAL GLAZE 1 5% 1/10W
R130	1-216-021-00	METAL GLAZE 68 5% 1/10W
R131	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R132	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R202	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R203	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R204	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R205	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R206	1-216-037-00	METAL GLAZE 330 5% 1/10W
R207	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R208	1-216-033-00	METAL GLAZE 220 5% 1/10W
R209	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R210	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R211	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R212	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R213	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R214	1-216-117-00	METAL GLAZE 680K 5% 1/10W
R215	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R216	1-216-103-00	METAL GLAZE 180K 5% 1/10W
R217	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R218	1-216-037-00	METAL GLAZE 330 5% 1/10W
R219	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R220	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R221	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R222	1-216-112-00	METAL GLAZE 430K 5% 1/10W
R223	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R224	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R225	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R226	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R227	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R228	1-216-025-00	METAL GLAZE 100 5% 1/10W
R229	1-217-671-11	METAL GLAZE 1 5% 1/10W
R230	1-216-021-00	METAL GLAZE 68 5% 1/10W
R231	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R232	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R301	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R302	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R303	1-216-121-00	METAL GLAZE 1M 5% 1/10W
R304	1-216-105-00	METAL GLAZE 220K 5% 1/10W

Ref.No	Part No.	Description	Ref.No	Part No.	Description
R305	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R306	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R307	1-216-039-00	METAL GLAZE	390	5%	1/10W
R308	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R309	1-216-025-00	METAL GLAZE	100	5%	1/10W
R310	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R311	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R312	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R313	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R314	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R315	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R316	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R317	1-216-103-00	METAL GLAZE	180K	5%	1/10W
R318	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R319	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R320	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R321	1-216-013-00	METAL GLAZE	33	5%	1/10W
R322	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R323	1-216-074-00	METAL GLAZE	11K	5%	1/10W
R324	1-216-074-00	METAL GLAZE	11K	5%	1/10W
R325	1-216-029-00	METAL GLAZE	150	5%	1/10W
R326	1-216-041-00	METAL GLAZE	470	5%	1/10W
R327	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R328	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R329	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R330	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R331	1-216-009-00	METAL GLAZE	22	5%	1/10W
R332	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R333	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R334	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R335	1-216-035-00	METAL GLAZE	270	5%	1/10W
R401	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R402	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R403	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R404	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R405	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R406	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R407	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R408	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R409	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R410	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R411	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R412	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R413	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R414	1-216-033-00	METAL GLAZE	220	5%	1/10W
R415	1-216-033-00	METAL GLAZE	220	5%	1/10W
R416	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R417	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R418	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R419	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R420	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R421	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R422	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R423	1-216-103-00	METAL GLAZE	180K	5%	1/10W
R424	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R425	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R426	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R427	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R428	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R429	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R430	1-216-115-00	METAL GLAZE	560K	5%	1/10W
R431	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R432	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R433	1-216-009-00	METAL GLAZE	22	5%	1/10W
R434	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R435	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R436	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R437	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R438	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R439	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R440	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R441	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R442	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R443	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R444	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R445	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R446	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R447	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R448	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R449	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R450	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R451	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R452	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R453	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R454	1-216-025-00	METAL GLAZE	100	5%	1/10W
R455	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R456	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R457	1-216-051-00	METAL GLAZE	12K	5%	1/10W
R458	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R459	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R460	1-216-045-00	METAL GLAZE	680	5%	1/10W
R461	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R462	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R463	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R464	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R465	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R466	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R467	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R468	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R469	1-216-025-00	METAL GLAZE	100	5%	1/10W
R470	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R471	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R472	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R473	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R474	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R475	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R476	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R477	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R478	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R479	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R480	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R481	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R482	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R483	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R484	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R485	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R486	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R487	1-216-080-00	METAL GLAZE	20K	5%	1/10W
R488	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R489	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R490	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R491	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R492	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R501	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R602	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R603	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R604	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R605	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R606	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R607	1-216-097-00	METAL GLAZE	100K	5%	1/10W

Ref.No	Part No.	Description				
R608	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R609	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R610	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R611	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R612	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R613	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R614	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R616	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R617	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R618	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R619	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R620	1-216-117-00	METAL GLAZE	680K	5%	1/10W	
R621	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R622	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R623	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R624	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
RV101	1-228-358-00	RES, ADJ, METAL GLAZE	2.2K			
RV102	1-238-559-11	RES, ADJ, METAL GLAZE	500			
RV201	1-228-358-00	RES, ADJ, METAL GLAZE	2.2K			
RV202	1-238-559-11	RES, ADJ, METAL GLAZE	500			
RV301	1-230-687-11	RES, VAR, CARBON	10K/10K (VOLUME)			
RV601	1-238-522-11	RES, VAR, CARBON	47K (SPEED CONTROL)			
RV602	1-230-873-11	RES, ADJ, METAL GLAZE	47K			
S301	1-571-341-11	SWITCH, SLIDE (REC/PB)				
S302	1-554-222-00	SWITCH, SLIDE (NOISE REDUCTION)				
S303	1-554-222-00	SWITCH, SLIDE (TONE/MIC SENS)				
S401	1-570-395-11	SWITCH, LEAF (POWER)				
S402	1-571-348-11	SWITCH, LEAF (FF/REW)				
S901	1-554-303-21	SWITCH, KEY BOARD (CUE MARKER)				
S902	1-554-303-21	SWITCH, KEY BOARD (SOUND SCAN)				
S903	1-554-222-00	SWITCH, SLIDE (PAUSE)				
S904	1-554-222-00	SWITCH, SLIDE (AUTO STOP)				
SP901	1-544-118-11	SPEAKER				
T301	1-433-251-00	TRANSFORMER, BIAS OSCILLATOR				
X401	1-567-918-11	VIBRATOR, CERAMIC (4MHz)				

## ACCESSORY &amp; PACKING MATERIAL

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- 3-342-380-01 SHEET, SPEED HOLE
- \* 3-351-284-01 CUSHION (UPPER)
- \* 3-351-285-01 CUSHION (LOWER)
- \* 3-351-288-01 (US)....INDIVIDUAL CARTON
- \* 3-351-289-01 (Canadian, AEP, UK, E)....INDIVIDUAL CARTON
- 3-351-296-01 CASE, CARRYING
- 3-703-468-11 BAG, POLYETHYLENE
- 3-786-870-11 (Canadian, AEP, UK, E)....MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PROTUGUESE)
- 3-786-870-21 (US)....MANUAL, INSTRUCTION (ENGLISH)
- 3-786-870-41 (AEP)....MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN)